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C L A I M S

1. Fuel additive composition for the reduction/removal of vanadium-containing ash deposits in gas turbines and other by combustion of vanadium-containing fuel driven apparatuses, which composition as its active ingredient comprises a compound of a metal capable of forming a vanadate with vanadium of said ash deposits, which composition comprises

a) as said compound of a metal capable of forming a vanadate with vanadium of said ash deposits a1) an inorganic oxygen-containing compound of said metal in particle form, which oxygen-containing compound, when heated up in a combustion flame, liberates a gaseous substance by evaporation and forms the corresponding metal oxide having a crystalline porous low density structure or a2) said corresponding metal oxide having a crystalline porous low density structure, said inorganic oxygen-containing compound a1) and said corresponding metal oxide a2) having a particle size distribution essentially within the range of from 0,1 to 2 micron, preferably from 0,1 to 1 micron and said corresponding metal oxide a2) having a density of at most 2.0 g/cm^3,

dispersed in

b) at least one liquid selected from the group consisting of liquids soluble in oil,

by means of

c) at least one dispersant selected from the group consisting of low molecular weight dispersants and high molecular weight dispersants.

2. Fuel additive composition according to claim 1, wherein said metal is capable of forming vanadates having a

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melting point within the range of from 650°C to 2000°C.

3. Fuel additive composition according to any of claims 1 and 2, wherein said metal is magnesium or yttrium.

4. Fuel additive composition according to any of claims 1 to 3, wherein said inorganic oxygen-containing metal compounds or oxide has a particle size distribution which is adapted to be most effective at the temperature at which a solid, porous metal vanadate is formed and to form ash particles which deposit as little as possible and form as loose deposits as possible.

5. Fuel additive composition according to any of claims 1 to 4, wherein said liquid is selected from the group consisting of mineral oils, highly aromatic naphtha, diesel fuel, vegetable oils, esterified vegetable oils, animal oils and esterified animal oils.

6. Fuel additive composition according to claim 5, wherein said vegetable oils and esters thereof are selected from peanut oil, coconut oil, corn oil, linseed oil, rape-oil, palm oil, sunflower oil, olive oil, tall oil and esters thereof.

7. Fuel additive composition according to claim 5, wherein said liquid is rape-oil methyl ester or diesel fuel.

8. Fuel additive composition according to any of claims 1 to 7, wherein said inorganic oxygen-containing metal compound or oxide comprises from 10 to 65% by volume, preferably from 20 to 50% by volume and more preferably from 30 to 40% by volume, and most preferably from 40 to 50% by volume, calculated on the total volume of the composition.

9. Fuel additive composition according to any of claims 1 to 8, wherein said at least one dispersant is an anionic

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or amphoteric low molecular weight dispersant.

10. Process for the preparation of a fuel additive composition as defined in any of claims 1-8, which process comprises

mixing a powder of an inorganic oxygen-containing compound of a metal capable of forming a vanadate with vanadium of ash deposits from vanadium-containing fuel and which inorganic oxygen-containing compound when heated up in a combustion flame liberates a gaseous substance by evaporating to form to the corresponding oxide having a crystalline porous low density structure or a powder of said oxide having a crystalline porous low density structure into a mixture of at least one liquid selected from the group consisting of liquids soluble in oil with at least one dispersant for said inorganic oxygen-containing metal compound or oxide selected from the group consisting of low molecular weight dispersants and high molecular weight dispersants using shear forces to form a homogenous pumpable premix and

subjecting the premix to a treatment comprising size degradation and dispersant coating to a particle size distribution of.the inorganic oxygen-containing metal compound and oxide essentially within the range of from 0.1 to 2 micron, preferably from 0.1 to 1 micron, under centrifugal or oscillation forces in the presence of a grinding medium and/or ultrasonic treatment until a plot of the sediment height in samples taken periodically during said treatment and centrifuged at a fixed rate for a fixed period versus time plateaus and the viscosity has decreased and come into a steady state.

11. Process according to claim 10, wherein the size degradation and dispersant coating is carried out in a basket mill with zirconium balls as a grinding medium.

12. Process according to claim 11, wherein size degradation and dispersant coating is carried out at an accelerative force within the range of from 50g to 70g on the liquid.

13. Process according to any of claims 11 and 12, wherein only part of said at least one liquid and/or said at least one dispersant has been used when preparing the mixture of said at least one liquid soluble in oil and said at least one dispersant, the remainder of the dispersant and liquid being added after said graph over the sediment height in samples taken periodically and being centrifuged at a fixed rate for a fixed period has reached a plateau.

14. The use of an inorganic oxygen-containing compound of a metal selected from the group consisting of metals capable of forming vanadates having a melting point within the range of from 650°C to 2000°C with vanadium of ash deposits from vanadium-containing fuel which inorganic oxygen-containing compound when heated up in a combustion flame liberates a gaseous substance by evaporation to form the corresponding oxide having a crystalline, porous low density structure, or the corresponding oxide obtained by heating the inorganic oxygen-containing compound at a temperature which is high enough to give the oxide in crystalline porous low density but is below the melting point of the oxide, said inorganic oxygen-containing compound and said crystalline porous low density oxide having a particle size distribution essentially within the range of from 0.1 to 2 micron, preferably from 0.1 to 1 microns, as a component of fuel additive compositions for the reduction/removal of vanadium-containing ash deposits.

and dispersant coating under centrifugal or oscillation forces and/or to ultrasonic treatment to a particle size distribution as stated above.